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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,092	01/17/2002	Hiromichi Atsuumi	218135US2	5733

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EXAMINER

ALLEN, DENISE S

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/047,092

Applicant(s)

ATSUUMI, HIROMICHI

Examiner

Denise S Allen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6,8,9.                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The document US 6,384,949 has been lined through on the Information Disclosure Statement form 1449 submitted on October 28, 2002 because it is a duplicate listing from the Information Disclosure Statement submitted on January 24, 2003.

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

Claims 2, 6, 9, 11, and 18 are objected to because of the following informalities: the limitation "said third optics includes said at least one non-arcuate auxiliary surface" (lines 2 – 3) is unclear because the non-arcuate auxiliary surface recited in claims 1, 5, 8, 10, or 17 is on at least one of the surfaces of the second optics and claims 2, 6, 9, 11, and 18 do not indicate if the non-arcuate auxiliary surface in the third optics replaces or supplements the one in the second optics. Suggested correction: delete the word "said" from the limitation "said at least one non-arcuate auxiliary surface" in claims 2, 6, 9, 11, and 18. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al (US 6,509,995).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1, 3, 10, 12, 15, 19, and 20, Suzuki et al teaches scanning optics (Figures 8A and 8B) comprising: first optics (reference 102) for coupling a light beam issuing from a light source (reference 101); second optics (references 110, 111, and 112) for condensing the light beam output from said first optics substantially in a form of a line elongate in a main scanning direction (Figure 2B); a deflector (Figure 8A reference 105) including reflection faces (three faces are shown in Figure 8A), which adjoin a position where the light beam is condensed in the form of a line (Figure 2B), for deflecting said light beam with said reflection faces; and third optics (Figures 8A and 8B reference 160) for condensing the light beam deflected by said deflector toward a surface (reference 107) to be scanned to thereby form a beam spot on said surface for optically scanning said surface; wherein said third optics includes at least one focusing element formed of resin (column 18 lines 22 – 23); said second optics includes at least one focusing element formed of resin and at least one

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focusing element formed of glass (column 19 lines 31 – 34), at least one surface of said second optics comprises a non-arcuate auxiliary surface non-arcuate in a section in a subscanning direction (claim 5), and among said focusing elements of said second optics, a focusing element formed of resin through which the light beam output from said first optics is transmitted with a maximum diameter in the subscanning direction comprises said at least one non-arcuate auxiliary surface (column 19 lines 49 – 67).

Regarding claims 2, 6, 9, 11, and 18, Suzuki et al teaches said third optics includes said at least one arcuate auxiliary surface (column 16 line 35 – column 17 line 53).

Regarding claims 4, 7, 13, and 16, Suzuki et al teaches said second optics comprises two lenses formed of resin and a single lens formed of glass (column 19 lines 31 – 34), said two lenses (Figure 8B references 110 and 111) formed of resin adjoin said first optics (reference 102) and have negative power in the subscanning direction (column 19 lines 35 – 44), said single lens (reference 112) formed of glass adjoins said deflector (reference 105) and has positive power in the subscanning direction (column 19 lines 45 – 48), and at least one of said two lenses formed of resin has power in the main scanning direction opposite to power of said focusing element of said third optics formed of resin in the main scanning direction (column 19 lines 35 – 39 and lines 49 – 54).

Regarding claims 5, 8, 14, and 17, Suzuki et al teaches one of said two lenses formed of resin has a concave, spherical input surface (reference 110a) and a concave, cylindrical output surface (reference 110b) and adjoins said first optics, the other of said two lenses comprises a cylindrical lens having negative power in the subscanning direction (column 19 lines 42 – 44), and said single lens formed of glass comprises a toroidal lens having positive

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power in the main and subscanning directions (column 19 lines 45 – 48) and is positioned closer to said deflector than said cylindrical lens and has a non-arcuate auxiliary input surface (reference 112a).

Regarding claims 21 and 23, Suzuki et al teaches an image forming apparatus (Figure 17) including an optical scanning device (reference 1117) for scanning an image carrier (reference 1111), said optical scanning device comprising scanning optics as described above.

Regarding claims 22 and 24, Suzuki et al teaches said image carrier comprises a photoconductive element (column 28 lines 28 – 29), and said optical scanning device forms a latent image on said photoconductive element (column 28 lines 51 – 54).

### ***Double Patenting***

Applicant is advised that should claims 13 and 14 be found allowable, claims 16 and 17 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (703) 305-7407. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Denise S Allen  
Examiner  
Art Unit 2872



dsa  
June 15, 2003



**Audrey Chang**  
**Primary Examiner**  
**Technology Center 2800**